

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
5 August 2004 (05.08.2004)

PCT

(10) International Publication Number
WO 2004/066249 A1

(51) International Patent Classification⁷: **G09G 3/32**

(21) International Application Number:
PCT/IB2004/000156

(22) International Filing Date: 20 January 2004 (20.01.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0301659.9 24 January 2003 (24.01.2003) GB
0308396.1 11 April 2003 (11.04.2003) GB

(71) Applicant (for all designated States except US): **KONINKLIJKE PHILIPS ELECTRONICS N.V.** [NL/NL];
Gronewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **HECTOR, Jason, R.** [GB/GB]; c/o Philips Intellectual Property & Standards, Cross Oak Lane, Redhill, Surrey, RH1 5HA (GB).
CHILDS, Mark, J. [GB/GB]; c/o Philips Intellectual Property & Standards, Cross Oak Lane, Redhill, Surrey,

RH1 5HA (GB). **FISH, David, A.** [GB/GB]; c/o Philips Intellectual Property & Standards, Cross Oak Lane, Redhill, Surrey, RH1 5HA (GB). **JOHNSON, Mark, T.** [GB/GB]; c/o Philips Intellectual Property & Standards, Cross Oak Lane, Redhill, Surrey, RH1 5HA (GB).

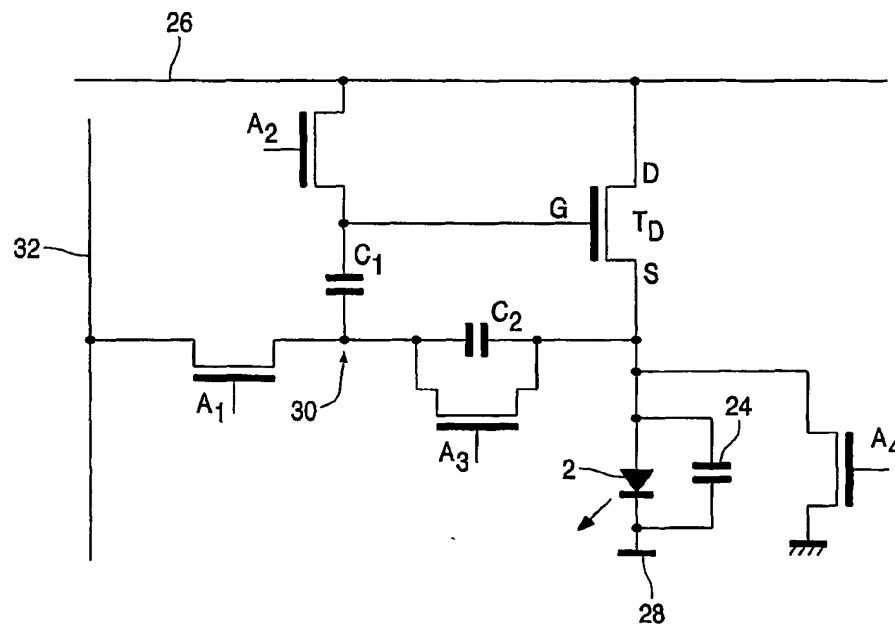
(74) Agent: **WILLIAMSON, Paul, L.**; Philips Intellectual Property & Standards, Cross Oak Lane, Redhill, Surrey, RH1 5HA (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: ACTIVE MATRIX DISPLAY DEVICES



(57) Abstract: An active matrix display device uses an amorphous silicon drive transistor for driving a current through an LED display element. First and second capacitors are connected in series between the gate and source of the drive transistor, with a data input to the pixel provided to the junction between the first and second capacitors. The second capacitor is charged to a pixel data voltage, and a drive transistor threshold voltage is stored on the first capacitor. This pixel arrangement enables a threshold voltage to be stored on the first capacitor, and this can be done each time the pixel is addressed, thereby compensating for age-related changes in the threshold voltage.

WO 2004/066249 A1